DEPARTMENT OF THE INTERIOR
ALBERT B. FALL, SECRETARY
UNITED STATES GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

GEOLOGIC ATLAS
OF THE
UNITED STATES

RATON-BRILLIANT-KOEHLER FOLIO

NEW MEXICO-COLORADO

BY

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RATON-BRILLIANT-KOEHLER FOLIO
NO. 214

GEOLOGIC ATLAS OF THE UNITED STATES.

UNITS OF SURVEY AND OF PUBLICATION.

The Geological Survey is making a topographic and a geologic atlas of the United States. The topographic atlas will consist of maps called *atlas sheets*, and the geologic atlas will consist of parts called *folios*. Each folio includes topographic and geologic maps of a certain four-sided area, called a *quadrangle*, or of more than one such area, and a text describing its topographic and geologic features. A quadrangle is limited by parallels and meridians, not by political boundary lines, such as those of States, counties, and townships. Each quadrangle is named from a town or a natural feature within it, and at the sides and corners of each map are printed the names of adjacent quadrangles.

SCALES OF THE MAPS.

On a map drawn to the scale of 1 inch to the mile a linear mile on the ground would be represented by a linear inch on the map, and each square mile of the ground would be represented by a square inch of the map. The scale may be expressed also by a fraction, of which the numerator represents a unit of linear measure on the map and the denominator the corresponding number of like units on the ground. Thus, as there are 63,360 inches in a mile, the scale 1 inch to the mile is expressed by the fraction $\frac{1}{63,360}$, or the ratio 1:63,360.

The three scales used on the standard maps of the Geological Survey are 1:62,500, 1:125,000, and 1:250,000, 1 inch on the map corresponding approximately to 1 mile, 2 miles, and 4 miles on the ground. On the scale of 1:62,500 a square inch of map surface represents about 1 square mile of earth surface; on the scale of 1:125,000, about 4 square miles; and on the scale of 1:250,000, about 16 square miles. In general a standard map on the scale of 1:250,000 represents a "square degree"—that is, an area measuring 1 degree of latitude by 1 degree of longitude; one on the scale of 1:125,000 represents one-fourth of a "square degree"; and one on the scale of 1:62,500 represents one-sixteenth of a "square degree." The areas of the corresponding quadrangles are about 4,000, 1,000, and 250 square miles, though they vary with the latitude, a "square degree" in the latitude of Boston, for example, being only 3,525 square miles and one in the latitude of Galveston being 4,150 square miles.

GENERAL FEATURES SHOWN ON THE MAPS.

The general features represented on the maps are of three distinct kinds—(1) inequalities of surface, called *relief*, such as plains, plateaus, valleys, hills, and mountains; (2) distribution of water, called *drainage*, such as streams, lakes, and swamps; (3) the works of man, called *culture*, such as roads, railroads, villages, and cities.

Relief.—All altitudes are measured from mean sea level. The heights of many points have been accurately determined, and those of some are given on the map in figures. It is desirable, however, to show the altitude of all parts of the area mapped, the form of the surface, and the grade of all slopes. This is done by contour lines, printed in brown, each representing a certain height above sea level. A contour on the ground passes through points that have the same altitude. One who follows a contour will go neither uphill nor downhill but on a level. The manner in which contour lines express altitude, form, and slope is shown in figure 1.

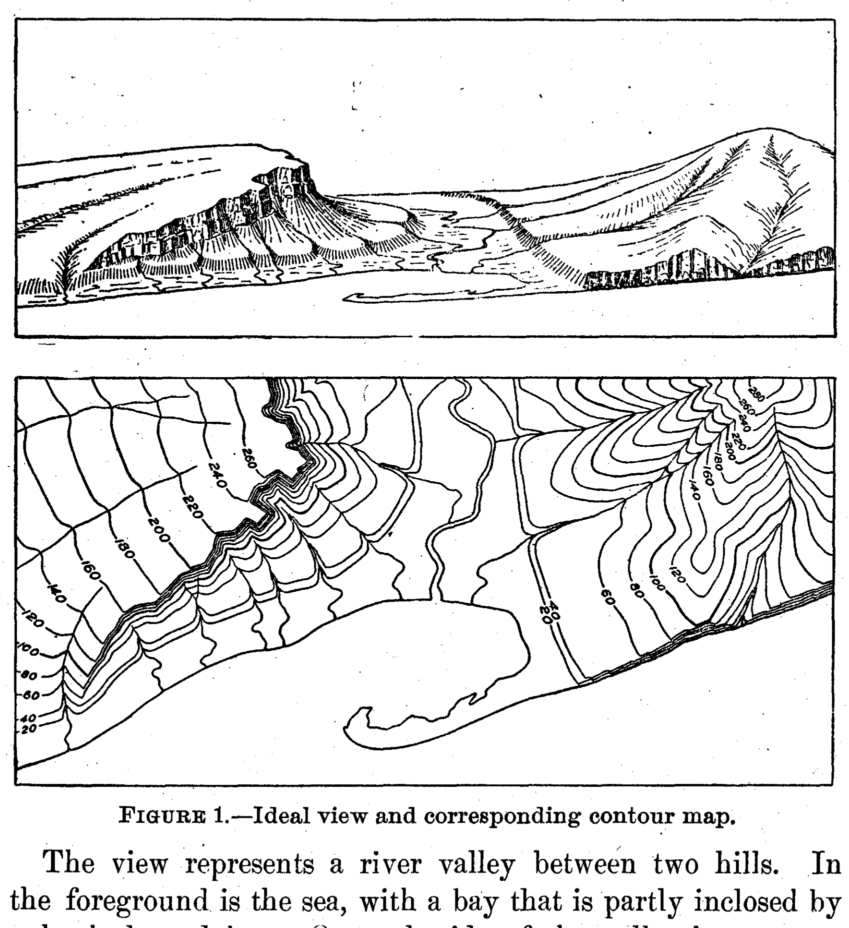

Figure 1.—Ideal view and corresponding contour map.

The view represents a river valley between two hills. In the foreground is the sea, with a bay that is partly inclosed by a hooked sand bar. On each side of the valley is a terrace. The terrace on the right merges into a gentle upward slope; that on the left merges into a steep slope that passes upward to a cliff, or scarp, which contrasts with the gradual slope back from its crest. In the map each of these features is indicated, directly beneath its position in the view, by contour lines. The map does not include the distant part of the view.

As contours are continuous horizontal lines they wind smoothly about smooth surfaces, recede into ravines, and project around spurs or prominences. The relations of contour curves and angles to the form of the land can be seen from the map and sketch. The contour lines show not only the shape of the hills and valleys but their altitude, as well as the steepness or grade of all slopes.

The vertical distance represented by the space between two successive contour lines—the contour interval—is the same, whether the contours lie along a cliff or on a gentle slope; but to reach a given height on a gentle slope one must go farther than on a steep slope, and therefore contours are far apart on gentle slopes and near together on steep slopes.

The contour interval is generally uniform throughout a single map. The relief of a flat or gently undulating country can be adequately represented only by the use of a small contour interval; that of a steep or mountainous country can generally be adequately represented on the same scale by the use of a larger interval. The smallest interval commonly used on the atlas sheets of the Geological Survey is 5 feet, which is used for regions like the Mississippi Delta and the Dismal Swamp. An interval of 1 foot has been used on some large-scale maps of very flat areas. On maps of more rugged country contour intervals of 10, 20, 25, 50, and 100 feet are used, and on maps of great mountain masses like those in Colorado the interval may be 250 feet.

In figure 1 the contour interval is 20 feet, and the contour lines therefore represent contours at 20, 40, 60, and 80 feet, and so on, above mean sea level. Along the contour at 200 feet lie all points that are 200 feet above the sea—that is, this contour would be the shore line if the sea were to rise 200 feet; along the contour at 100 feet are all points that are 100 feet above the sea; and so on. In the space between any two contours are all points whose altitudes are above the lower and below the higher contour. Thus the contour at 40 feet falls just below the edge of the terrace, and that at 60 feet lies above the terrace; therefore all points on the terrace are shown to be more than 40 but less than 60 feet above the sea. In this illustration all the contour lines are numbered, but on most of the Geological Survey's maps all the contour lines are not numbered; only certain of them—say every fifth one, which is made slightly heavier—are numbered, for the heights shown by the others may be learned by counting up or down from these. More exact altitudes for many points are given in bulletins published by the Geological Survey.

Drainage.—Watercourses are indicated by blue lines. The line for a perennial stream is unbroken; that for an intermittent stream is dotted; and that for a stream which sinks and reappears is broken. Lakes and other bodies of water and the several types of marshy areas are also represented in blue.

Culture.—Symbols for the works of man, including public-land lines and other boundary lines, as well as all the lettering, are printed in black.

GEOLOGIC FEATURES SHOWN ON THE MAPS.

The maps representing the geology show, by colors and conventional signs printed on the topographic map as a base, the distribution of rock masses on the surface of the land and, by means of structure sections, their underground relations so far as known, in such detail as the scale permits.

KINDS OF ROCKS.

Rocks are of many kinds. On the geologic map they are distinguished as igneous, sedimentary, and metamorphic.

Igneous rocks.—Rocks that have cooled and consolidated from a state of fusion are known as *igneous*. Molten material has from time to time been forced upward in fissures or channels of various shapes and sizes through rocks of all ages to or nearly to the surface. Rocks formed by the consolidation of molten material, or *magma*, within these channels—that is, below the surface—are called *intrusive*. An intrusive mass that occupies a nearly vertical fissure which has approximately parallel walls is called a *dike*; one that fills a large and irregular conduit is termed a *stock*. Molten material that traverses stratified rocks may be intruded along bedding planes, forming masses called *sills* or *sheets* if they are relatively thin and *laccoliths* if they are large lenticular bodies. Molten material that is inclosed by rock cools slowly, and its component minerals crystallize when they solidify, so that intrusive rocks are generally crystalline. Molten material that is poured out through channels that reach the surface is called *lava*, and lava may build up volcanic mountains. Igneous rocks that have solidified at the surface are called *extrusive* or *effusive*. Lavas generally cool more rapidly than intrusive rocks and contain, especially in their outer parts, more or less volcanic glass, produced by rapid chilling. The outer parts of lava flows are also usually made porous by the expansion of the gases in the magma. Explosions due to these gases may accompany volcanic eruptions, causing the ejection of dust, ash, lapilli, and larger fragments. These materials, when consolidated, constitute breccias, agglomerates, and tuffs.

Sedimentary rocks.—Rocks composed of the transported fragments or particles of older rocks that have undergone disintegration, of volcanic material deposited in lakes and seas, or of material deposited in such bodies of water by chemical precipitation or by organic action are termed *sedimentary*.

The chief agent in the transportation of rock débris is water in motion, including rain, streams, and the water of lakes and of the sea. The materials are in large part carried as solid particles, and the deposits they form are called mechanical. Such deposits are gravel, sand, and clay, which are later consolidated into conglomerate, sandstone, and shale. Some of the materials are carried in solution, and deposits composed of these materials are called organic if formed with the aid of life or chemical if formed without the aid of life. The more common rocks of chemical and organic origin are limestone, chert, gypsum, salt, certain iron ores, peat, lignite, and coal. Any one of the kinds of deposits named may be formed separately, or the different materials may be intermingled in many ways, producing a great variety of rocks.

Another transporting agent is air in motion, or wind, and a third is ice in motion, or glaciers. The most characteristic of the wind-borne or eolian deposits is *loess*, a fine-grained earth; the most characteristic of the glacial deposits is *till*, a heterogeneous mixture of bowlders and pebbles with clay or sand.

Most sedimentary rocks are made up of layers or beds that can be easily separated. These layers are called *strata*, and rocks deposited in such layers are said to be *stratified*.

The surface of the earth is not immovable; over wide regions it very slowly rises or sinks with reference to the sea, and shore lines are thus changed. As a result of upward movement marine sedimentary rocks may become part of the land, and most of our land surface is in fact composed of rocks that were originally deposited as sediments in the sea.

Rocks exposed at the surface of the land are acted on by air, water, ice, animals, and plants, especially the low organisms known as bacteria. They gradually disintegrate, and their more soluble parts are leached out, the less soluble material being left as a *residual* layer. Water washes this material down the slopes, and it is eventually carried by rivers to the ocean or other bodies of water. Usually its journey is not continuous, but it is temporarily built into river bars and flood plains, where it forms *alluvium*. Alluvial deposits, glacial deposits (collectively known as *drift*), and eolian deposits belong to the *surficial* class, and the residual layer is commonly included with them. The upper parts of these deposits, which are occupied by the roots of plants, constitute soils and subsoils, the soils being usually distinguished by a considerable admixture of organic matter.

Metamorphic rocks.—In the course of time and by various processes rocks may become greatly changed in composition and texture. If the new characteristics are more pronounced than the old the rocks are called *metamorphic*. In the process of metamorphism the chemical constituents of a rock may enter into new combinations and certain substances may be lost or new ones added. A complete gradation from the primary to the metamorphic form may exist within a single rock mass. Such changes transform sandstone into quartzite and limestone into marble and modify other rocks in various ways.

From time to time during geologic ages rocks that have been deeply buried and have been subjected to enormous pressure, to slow movement, and to igneous intrusion have been afterward raised and later exposed by erosion. In such rocks the original structural features may have been lost entirely and new ones substituted. A system of parallel planes along which the rock can be split most readily may have been developed. This acquired quality gives rise to *cleavage*, and the cleavage planes may cross the original bedding planes at any angle. Rocks characterized by cleavage are called *slates*. Crystals of mica or other minerals may have grown in a rock in parallel arrangement, causing lamination or foliation and producing what is known as *schistosity*. Rocks characterized by schistosity are called *schists*.

As a rule, the older rocks are most altered and the younger are least altered, but to this rule there are many exceptions, especially in regions of igneous activity and complex structure.

GEOLOGIC FORMATIONS.

For purposes of geologic mapping the rocks of all the kinds above described are divided into *formations*. A sedimentary formation contains between its upper and lower limits either rocks of uniform character or rocks more or less uniformly varied in character, as, for example, an alternation of shale and limestone. If the passage from one kind of rocks to another is gradual it may be necessary to separate two contiguous formations by an arbitrary line, and the distinction between some such formations depends almost entirely on the fossils they contain. An igneous formation contains one or more bodies of one kind of rock of similar occurrence or of like origin. A metamorphic formation may consist of one kind of rock or of several kinds of rock having common characteristics or origin.

When it is desirable to recognize and map one or more specially developed parts of a formation the parts are called *members* or by some other appropriate term, such as *lentils*.

AGE OF THE FORMATIONS.

Geologic time.—The larger divisions of geologic time are called *periods*. Smaller divisions are called *epochs*, and still smaller ones are called *stages*. The age of a rock is expressed by the name of the time division in which it was formed.

The sedimentary formations deposited during a geologic period are grouped together into a *system*. The principal divisions of a system are called *series*. Any aggregate of formations less than a series is called a *group*.

As sedimentary deposits accumulate successively the younger rest on the older, and their relative ages may be determined by observing their positions. In many regions of intense disturbance, however, the beds have been overturned by folding or their relations to adjacent beds have been changed by faulting, so that it may be difficult to determine their relative ages from their present positions at the surface.

Many stratified rocks contain *fossils*, the remains or imprints of plants and animals which, at the time the strata were deposited, lived in bodies of water or were washed into them or were buried in surficial deposits on the land. Such rocks are said to be fossiliferous. A study of these fossils has shown that the forms of life at each period of the earth's history were to a great extent different from the forms at other periods. Only the simpler kinds of marine plants and animals lived when the oldest fossiliferous rocks were deposited. From time to time more complex kinds developed, and as the simpler ones lived on in modified forms life became more varied. But during each period there lived forms that did not exist in earlier times and have not existed since; these are *characteristic types*, and they define the age of any bed of rock in which they are found. Other types passed on from period to period and thus linked the systems together, forming a chain of life from the time of the oldest fossiliferous rocks to the present. If two sedimentary formations are geographically so far apart that it is impossible to determine their relative positions the characteristic fossils found in them may determine which was deposited first. Fossils are also of value in determining the age of formations in the regions of intense disturbance mentioned above. The fossils found in the strata of different areas, provinces, and continents afford the most effective means of combining local histories into a general earth history.

It is in many places difficult or impossible to determine the age of an igneous formation, but the relative age of such a formation can in general be ascertained by observing whether an associated sedimentary formation of known age is cut by the igneous mass or lies upon it. Similarly, the time at which metamorphic rocks were formed from the original masses may be shown by their relations to adjacent formations of known age; but the age recorded on the map is that of the original masses and not that of their metamorphism.

Symbols, colors, and patterns.—Each formation is shown on the map by a distinctive combination of color and pattern and is labeled by a special letter symbol.

Patterns composed of parallel straight lines are used to represent sedimentary formations deposited in the sea, in lakes, or in other bodies of standing water. Patterns of dots and circles represent alluvial, glacial, and eolian formations. Patterns of triangles and rhombs are used for igneous formations. Metamorphic rocks of unknown origin are represented by short dashes irregularly placed; if the rock is schist the dashes may be arranged in wavy lines parallel to the structure planes. Suitable combination patterns are used for metamorphic formations that are known to be of sedimentary or of igneous origin. The patterns of each class are printed in various colors. The colors in which the patterns of parallel lines are printed indicate age, a particular color being assigned to each system.

Each symbol consists of two or more letters. The symbol for a formation whose age is known includes the system symbol, which is a capital letter or monogram; the symbols for other formations are composed of small letters.

The names of the geologic time divisions, arranged in order from youngest to oldest, and the color and symbol assigned to each system are given in the subjoined table.

Geologic time divisions and symbols and colors assigned to the rock systems.

Era.	Period or system.	Epoch or series.	Symbol.	Color for sedimentary rocks.
Cenozoic	Quaternary	Recent Pleistocene	Q	Brownish yellow.
	Tertiary	Pliocene Miocene Oligocene Eocene	T	Yellow ocher.
Mesozoic	Cretaceous		K	Olive-green.
	Jurassic		J	Blue-green.
	Triassic		Ʀ	Peacock-blue.
Paleozoic	Carboniferous	Permian Pennsylvanian Mississippian	C	Blue.
	Devonian		D	Blue-gray.
	Silurian		S	Blue-purple.
	Ordovician		O	Red-purple.
	Cambrian		Є	Brick-red.
Proterozoic	Algonkian		A	Brownish red.
	Archean		Æ	Gray-brown.

DEVELOPMENT AND SIGNIFICANCE OF SURFACE FORMS.

Hills, valleys, and all other surface forms have been produced by geologic processes. Most valleys are the result of erosion by the streams that flow through them (see fig. 1), and the alluvial plains that border many streams were built up by the streams; waves cut sea cliffs, and waves and currents build up sand spits and bars. Surface forms thus constitute part of the record of the history of the earth.

Some forms are inseparably connected with deposition. The hooked spit shown in figure 1 is an illustration. To this class belong beaches, alluvial plains, lava streams, drumlins (smooth oval hills composed of till), and moraines (ridges of drift made at the edges of glaciers). Other forms are produced by erosion. The sea cliff is an illustration; it may be carved from any rock. To this class belong abandoned river channels, glacial furrows, and peneplains. In the making of a stream terrace an alluvial plain is built and afterward partly eroded away. The shaping of a plain along a shore is usually a double process, hills being worn away (*degraded*) and valleys filled up (*aggraded*).

All parts of the land surface are subject to the action of air, water, and ice, which slowly wears them down, producing material that is carried by streams toward the sea. As this wearing down depends on the flow of water to the sea it can not be carried below sea level, which is therefore called the *base-level* of erosion. Lakes or large rivers may determine base-levels for certain regions. A large tract that is long undisturbed by uplift or subsidence is worn down nearly to base-level, and the fairly even surface thus produced is called a *peneplain*. If the tract is afterward uplifted it becomes a record of its former close relation to base-level.

THE GEOLOGIC MAPS AND SHEETS IN THE FOLIO.

Areal-geology map.—The map showing the surface areas occupied by the several formations is called an *areal-geology map*. On the margin is an explanation, which is the key to the map. To ascertain the meaning of any color or pattern and its letter symbol the reader should look for that color, pattern, and symbol in the explanation, where he will find the name and description of the formation. If he desires to find any particular formation he should examine the explanation and find its name, color, and pattern and then trace out the areas on the map corresponding in color and pattern. The explanation shows also parts of the geologic history. The names of formations are arranged in columnar form, grouped primarily according to origin—sedimentary, igneous, and crystalline of unknown origin—and those within each group are placed in the order of age, the youngest at the top.

Economic-geology map.—The map representing the distribution of useful minerals and rocks and showing their relations to the topographic features and to the geologic formations is termed the *economic-geology map*. Most of the formations indicated on the areal-geology map are shown on the economic-geology map by patterns in fainter colors, but the areas of productive formations are emphasized by strong colors. A mine symbol shows the location of each mine or quarry and is accompanied by the name of the principal mineral product mined or quarried. If there are important mining industries or artesian basins in the area the folio includes special maps showing these additional economic features.

Structure-section sheet.—The relations of different beds to one another may be seen in cliffs, canyons, shafts, and other natural and artificial cuttings. Any cutting that exhibits these relations is called a *section*, and the same term is applied to a diagram representing the relations. The arrangement of the beds or masses of rock in the earth is called *structure*, and a section showing this arrangement is called a *structure section*.

The geologist is not limited, however, to natural and artificial cuttings for his information concerning the earth's structure. Knowing the manner of formation of rocks, after tracing out the relations of the beds on the surface he can infer their relative positions beneath the surface and can draw sections representing the probable structure to a considerable depth. Such a section is illustrated in figure 2.

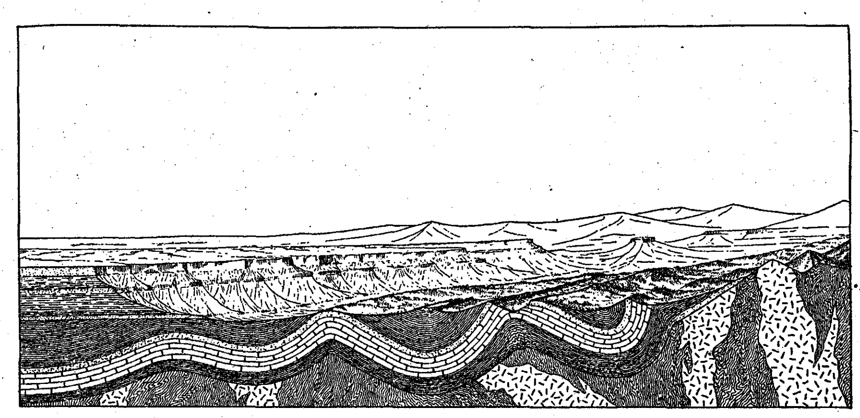

FIGURE 2.—Sketch showing a vertical section below the surface at the front and a view beyond.

The figure represents a landscape that is cut off sharply in the foreground on a vertical plane, so as to show the underground relations of the rocks. The kinds of rock are indicated

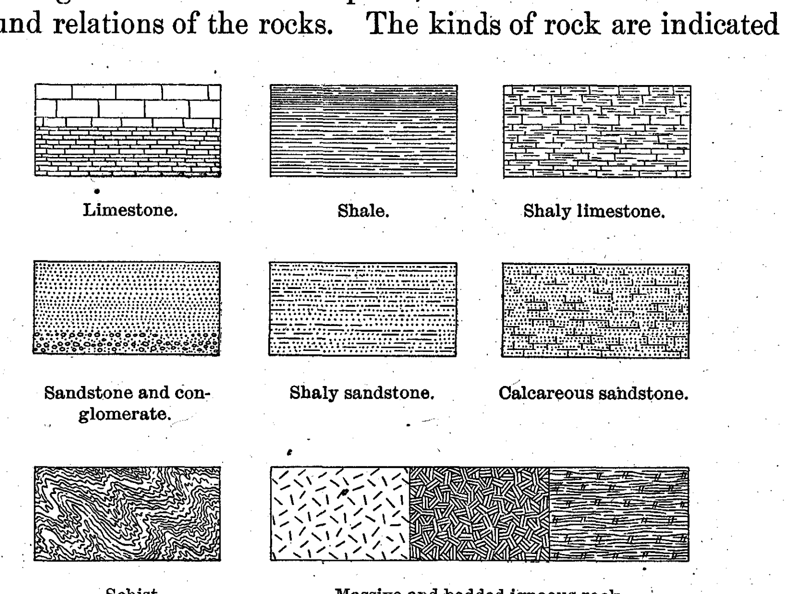

FIGURE 3.—Symbols used in sections to represent different kinds of rock.

by appropriate patterns of lines, dots, and dashes. These patterns admit of much variation, but those shown in figure 3 are used to represent the commoner kinds of rock.

The plateau shown at the left of figure 2 presents toward the lower land an escarpment, or front, made up of sandstone, which forms the cliffs, and shale, which forms the slopes. The broad belt of lower land is traversed by several ridges, which, as shown in the section, correspond to the outcrops of a folded bed of sandstone that rises to the surface. The upturned edges of this bed form the ridges, and the intermediate valleys follow the outcrops of limestone and calcareous shale.

Where the edges of the beds appear at the surface their thickness can be measured and the angles at which they dip below the surface can be observed, and by means of these observations their positions underground are inferred. The direction of the intersection of the surface of a dipping bed with a horizontal plane is called its *strike*. The inclination of the bed to the horizontal plane, measured at right angles to the strike, is called its *dip*.

In many regions the beds are bent into troughs and arches, such as are seen in figure 2. The arches are called *anticlines* and the troughs *synclines*. As the materials that formed the sandstone, shale, and limestone were deposited beneath the sea in nearly flat layers the fact that the beds are now bent and folded shows that forces have from time to time caused the earth's crust to wrinkle along certain zones. In places the beds are broken across and the parts have slipped past each other. Such breaks are termed *faults*. Two kinds of faults are shown in figure 4.

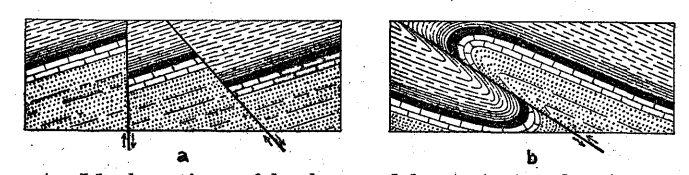

FIGURE 4.—Ideal sections of broken and bent strata, showing (a) *normal* faults and (b) a *thrust* or *reverse* fault.

At the right of figure 2 the section shows schists that are traversed by igneous rocks. The schists are much contorted, and the form or arrangement of their masses underground can not be inferred. Hence that part of the section shows only what is probable, not what is known by observation.

The section also shows three sets of formations, distinguished by their underground relations. The uppermost set, seen at the left, is made up of beds of sandstone and shale, which lie in a horizontal position. These beds were laid down under water but are now high above the sea, forming a plateau, and their change of altitude shows that this part of the earth's surface has been uplifted. The beds of this set are *conformable*—that is, they are parallel and show no break in sedimentation.

The next lower set of formations consists of beds that are folded into arches and troughs. The beds were once continuous, but the crests of the arches have been removed by erosion. These beds, like those of the upper set, are conformable.

The horizontal beds of the plateau rest upon the upturned, eroded edges of the beds of the middle set, as shown at the left of the section. The beds of the upper set are evidently younger than those of the middle set, which must have been folded and eroded between the time of their deposition and that of the deposition of the upper beds. The upper beds are *unconformable* to the middle beds, and the surface of contact is an *unconformity*.

The lowest set of formations consists of crystalline schists and igneous rocks. At some period of their history the schists were folded or plicated by pressure and intruded by masses of molten rock. The overlying beds of the middle set have not been traversed by these intrusive rocks nor have they been affected by the pressure of the intrusion. It is evident that considerable time elapsed between the formation of the schists and the beginning of the deposition of the beds of the middle set, and during this time the schists were metamorphosed, disturbed by the intrusion of igneous masses, and deeply eroded. The contact between the middle and lowest sets is another unconformity; it marks a period of erosion between two periods of deposition.

The section and landscape in figure 2 are ideal, but they illustrate actual relations. The sections on the structure-section sheet are related to the maps in much the same way that the section in the figure is related to the landscape. The profile of the surface in each structure section corresponds to the actual slopes of the ground along the section line, and the depth to any mineral-producing or water-bearing bed shown may be measured by using the scale given on the map.

Columnar section.—Many folios include a *columnar section*, which contains brief descriptions of the sedimentary formations in the quadrangle. It shows the character of the rocks as well as the thickness of the formations and the order of their accumulation, the oldest at the bottom, the youngest at the top. It also indicates intervals of time that correspond to events of uplift and degradation and constitute interruptions of deposition.

THE TEXT OF THE FOLIO.

The text of the folio states briefly the relation of the area mapped to the general region in which it is situated; points out the salient natural features of the geography of the area and indicates their significance and their history; considers the cities, towns, roads, railroads, and other human features; describes the geology and the geologic history; and shows the character and the location of the valuable mineral deposits.

GEORGE OTIS SMITH,
Director.

January, 1922.

PUBLISHED GEOLOGIC FOLIOS

No.*	Name of folio.	State.	Price.†
			Cents.
1	Livingston	Montana	Out of stock.
2	Ringgold	Georgia-Tennessee	do.
●3	Placerville	California	100
4	Kingston	Tennessee	Out of stock.
●5	Sacramento	California	100
6	Chattanooga	Tennessee	Out of stock.
7	Pikes Peak	Colorado	do.
8	Sewanee	Tennessee	do.
9	Anthracite-Crested Butte	Colorado	do.
10	Harpers Ferry	Va.-Md.-W. Va	do.
●11	Jackson	California	100
12	Estillville	Ky.-Va.-Tenn	Out of stock.
13	Fredericksburg	Virginia-Maryland	do.
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20	Cleveland	Tennessee	do.
21	Pikeville	Tennessee	do.
22	McMinnville	Tennessee	do.
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24	Three Forks	Montana	do.
25	Loudon	Tennessee	do.
26	Pocahontas	Virginia-West Virginia	do.
27	Morristown	Tennessee	do.
28	Piedmont	West Virginia-Maryland	do.
29	Nevada City Special	California	do.
30	Yellowstone National Park	Wyoming	do.
31	Pyramid Peak	California	do.
32	Franklin	West Virginia-Virginia	do.
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34	Buckhannon	West Virginia	do.
35	Gadsden	Alabama	do.
36	Pueblo	Colorado	do.
37	Downieville	California	do.
38	Butte Special	Montana	do.
39	Truckee	California	do.
40	Wartburg	Tennessee	do.
41	Sonora	California	do.
42	Nueces	Texas	do.
43	Bidwell Bar	California	do.
44	Tazewell	Virginia-West Virginia	do.
45	Boise	Idaho	do.
46	Richmond	Kentucky	do.
47	London	Kentucky	do.
48	Tenmile District Special	Colorado	do.
49	Roseburg	Oregon	do.
50	Holyoke	Massachusetts-Connecticut	do.
51	Big Trees	California	do.
52	Absaroka	Wyoming	do.
53	Standingstone	Tennessee	do.
54	Tacoma	Washington	do.
55	Fort Benton	Montana	do.
56	Little Belt Mountains	Montana	do.
57	Telluride	Colorado	do.
58	Elmoro	Colorado	do.
59	Bristol	Virginia-Tennessee	do.
60	La Plata	Colorado	do.
61	Monterey	Virginia-West Virginia	do.
62	Menominee Special	Michigan	do.
63	Mother Lode District	California	do.
64	Uvalde	Texas	do.
65	Tintic Special	Utah	do.
66	Colfax	California	do.
67	Danville	Illinois-Indiana	do.
68	Walsenburg	Colorado	do.
69	Huntington	West Virginia-Ohio	do.
70	Washington	D. C.-Va.-Md	do.
71	Spanish Peaks	Colorado	do.
72	Charleston	West Virginia	do.
73	Coos Bay	Oregon	do.
74	Coalgate	Oklahoma (Ind. T.)	do.
75	Maynardville	Tennessee	do.
76	Austin	Texas	do.
77	Raleigh	West Virginia	do.
78	Rome	Georgia-Alabama	do.
79	Atoka	Oklahoma (Ind. T.)	do.
80	Norfolk	Virginia-North Carolina	do.
81	Chicago	Illinois-Indiana	do.
82	Masontown-Uniontown	Pennsylvania	do.
83	New York City	New York-New Jersey	do.
84	Ditney	Indiana	5
85	Oelrichs	South Dakota-Nebraska	5
86	Ellensburg	Washington	5
87	Camp Clarke	Nebraska	5
88	Scotts Bluff	Nebraska	5
89	Port Orford	Oregon	Out of stock.
90	Cranberry	North Carolina-Tennessee	do.
91	Hartville	Wyoming	5
92	Gaines	Pennsylvania-New York	Out of stock.
93	Elkland-Tioga	Pennsylvania	5
94	Brownsville-Connellsville	Pennsylvania	Out of stock.
95	Columbia	Tennessee	5
96	Olivet	South Dakota	5
97	Parker	South Dakota	5
98	Tishomingo	Oklahoma (Ind. T.)	Out of stock.
99	Mitchell	South Dakota	5
100	Alexandria	South Dakota	5
101	San Luis	California	Out of stock.
102	Indiana	Pennsylvania	do.
103	Nampa	Idaho-Oregon	do.
104	Silver City	Idaho	5
105	Patoka	Indiana-Illinois	5
106	Mount Stuart	Washington	Out of stock.
107	Newcastle	Wyoming-South Dakota	do.
108	Edgemont	South Dakota-Nebraska	5
109	Cottonwood Falls	Kansas	5
110	Latrobe	Pennsylvania	Out of stock.
111	Globe	Arizona	do.
112	Bisbee (reprint)	Arizona	25
113	Huron	South Dakota	5
114	De Smet	South Dakota	5
115	Kittanning	Pennsylvania	Out of stock.
116	Asheville	North Carolina-Tennessee	do.
117	Casselton-Fargo	North Dakota-Minnesota	5
118	Greeneville	Tennessee-North Carolina	5
119	Fayetteville	Arkansas-Missouri	Out of stock.
120	Silverton	Colorado	do.
121	Waynesburg	Pennsylvania	do.
122	Tahlequah	Oklahoma (Ind. T.)	do.
123	Elders Ridge	Pennsylvania	do.
124	Mount Mitchell	North Carolina-Tennessee	do.
125	Rural Valley	Pennsylvania	do.
126	Bradshaw Mountains	Arizona	do.
127	Sundance	Wyoming-South Dakota	do.
128	Aladdin	Wyo.-S. Dak.-Mont	do.
129	Clifton	Arizona	do.
130	Rico	Colorado	do.
131	Needle Mountains	Colorado	do.
132	Muscogee	Oklahoma (Ind. T.)	do.
133	Ebensburg	Pennsylvania	do.
134	Beaver	Pennsylvania	do.
135	Nepesta	Colorado	do.
136	St. Marys	Maryland-Virginia	do.
137	Dover	Del.-Md.-N. J	do.
138	Redding	California	do.
139	Snoqualmie	Washington	do.
140	Milwaukee Special	Wisconsin	do.
141	Bald Mountain-Dayton	Wyoming	do.
142	Cloud Peak-Fort McKinney	Wyoming	do.
143	Nantahala	North Carolina-Tennessee	do.
144	Amity	Pennsylvania	do.
145	Lancaster-Mineral Point	Wisconsin-Iowa-Illinois	do.
146	Rogersville	Pennsylvania	do.
147	Pisgah	N. Carolina-S. Carolina	do.
148	Joplin District (reprint)	Missouri-Kansas	50
149	Penobscot Bay	Maine	Out of stock.
150	Devils Tower	Wyoming	do.
151	Roan Mountain	Tennessee-North Carolina	do.
152	Patuxent	Md.-D. C	do.
153	Ouray	Colorado	do.
154	Winslow	Ark.-Okla. (Ind. T.)	do.
155	Ann Arbor (reprint)	Michigan	25
156	Elk Point	S. Dak.-Nebr.-Iowa	5
157	Passaic	New Jersey-New York	Out of stock.
158	Rockland	Maine	do.
159	Independence	Kansas	do.
160	Accident-Grantsville	Md.-Pa.-W. Va	do.
161	Franklin Furnace	New Jersey	do.
162	Philadelphia	Pa.-N. J.-Del	do.
163	Santa Cruz	California	do.
‡164	Belle Fourche	South Dakota	5
‡165	Aberdeen-Redfield	South Dakota	5
166	El Paso	Texas	Out of stock.
167	Trenton	New Jersey-Pennsylvania	do.
‡168	Jamestown-Tower	North Dakota	5
169	Watkins Glen-Catatonk	New York	Out of stock.
170	Mercersburg-Chambersburg	Pennsylvania	do.
‡171	Engineer Mountain	Colorado	5
‡172	Warren	Pennsylvania-New York	5
173	Laramie-Sherman	Wyoming	Out of stock.
174	Johnstown	Pennsylvania	do.
175	Birmingham	Alabama	do.
176	Sewickley	Pennsylvania	do.
177	Burgettstown-Carnegie	Pennsylvania	do.
178	Foxburg-Clarion	Pennsylvania	do.
179	Pawpaw-Hancock	Md.-W. Va.-Pa	do.
‡180	Claysville	Pennsylvania	5
‡181	Bismarck	North Dakota	5
‡182	Choptank	Maryland	5
183	Llano-Burnet	Texas	Out of stock.
184	Kenova	Ky.-W. Va.-Ohio	do.
‖185	Murphysboro-Herrin	Illinois	25
‖186	Apishapa	Colorado	5
‖187	Ellijay	Ga.-N. C.-Tenn	25
‖188	Tallula-Springfield	Illinois	25
189	Barnesboro-Patton	Pennsylvania	25
‖190	Niagara	New York	50
‖191	Raritan	New Jersey	25
192	Eastport	Maine	25
‖193	San Francisco	California	75
194	Van Horn	Texas	25
195	Belleville-Breese	Illinois	25
196	Phillipsburg	Montana	25
‖197	Columbus	Ohio	25
198	Castle Rock	Colorado	25
199	Silver City	New Mexico	25
200	Galena-Elizabeth	Illinois-Iowa	25
‖201	Minneapolis-St. Paul	Minnesota	25
202	Eureka Springs-Harrison	Arkansas-Missouri	25
203	Colorado Springs	Colorado	25
204	Tolchester	Maryland	25
‖205	Detroit	Michigan	50
206	Leavenworth-Smithville	Missouri-Kansas	25
207	Deming	New Mexico	25
208	Colchester-Macomb	Illinois	25
209	Newell	South Dakota	25
210	Herman-Morris	Minnesota	25
211	Elkton-Wilmington	Md.-Del.-N. J.-Pa	25
212	Syracuse-Lakin	Kansas	25
213	New Athens-Okawville	Illinois	25
214	Raton-Brilliant-Koehler	New Mexico-Colorado	50

* Order by number.

† Payment must be made by money order or in cash.

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‡ Octavo editions of these folios may be had at same price.

‖ These folios are also published in octavo form at 50 cents each, except No. 193, which is 75 cents.

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